

AMENDMENTSIn the Claims

1. (Currently Amended) A method comprising:  
detecting a failure of a first link, wherein  
    said first link is between a network element and an upstream portion of a  
    communications network, and  
    said first link is associated with a virtual network; and  
in response to said detecting, maintaining a communications channel between said  
    downstream portion of said communications network and said upstream  
    portion of said communications network by disabling a second link between  
said network element and a downstream portion of said communications network  
~~to maintain a communications channel between said downstream portion of~~  
~~said communications network and said upstream portion of said~~  
~~communications network in response to said detecting, wherein~~  
    said second link is associated with said virtual network.
2. (Original) The method of claim 1, wherein  
said downstream portion of said communications network comprises a redundantly-  
linked network element.
3. (Original) The method of claim 2, wherein  
said redundantly-linked network element comprises a protocol stack including a first  
protocol stack layer and a second protocol stack layer,  
said first protocol stack layer is associated with one or more applications, and  
said disabling comprises notifying said second protocol stack layer of said failure.
4. (Original) The method of claim 3, wherein  
said network element comprises a primary network element,  
said method further comprises enabling a third link between said redundantly-linked  
network element and a secondary network element, and

said secondary network element is coupled to said upstream portion of said communications network using a fourth link.

5. (Original) The method of claim 2, wherein said redundantly-linked network element comprises a multi-homed endstation.
6. (Original) The method of claim 2, wherein said network element comprises a datalink layer network element.
7. (Original) The method of claim 6, wherein said datalink layer network element comprises an Ethernet switch.
8. (Original) The method of claim 2, wherein said upstream portion of said communications network comprises a network layer network element.
9. (Original) The method of claim 2, wherein said disabling comprises:  
disabling a plurality of links between said network element and a plurality of redundantly-linked network elements.
10. (Original) The method of claim 2, wherein said disabling comprises:  
disabling a link of a plurality of links between said network element and a plurality of redundantly-linked network elements.
11. (Original) The method of claim 10, wherein said disabling said link of said plurality of links comprises:  
disabling a link associated with a virtual network.
12. (Original) The method of claim 10, wherein said disabling said link of said plurality of links comprises:  
disabling a link associated with a port of said network element.
13. (Original) The method of claim 2, wherein said disabling comprises:  
disabling said second link between said network element and said downstream portion of said communications network within a period of time substantially less than or equal to 50 milliseconds of said detecting.

14. (Original) The method of claim 2, wherein said disabling comprises:  
disabling said second link between said network element and said downstream portion of  
said communications network within a period of time substantially less than or  
equal to 2 seconds of said detecting.
15. (Currently Amended) An apparatus comprising:  
means for detecting a failure of a first link, wherein  
said first link is between a network element and an upstream portion of a  
communications network, and  
said first link is associated with a virtual network; and  
means for maintaining a communications channel between said downstream portion  
of said communications network and said upstream portion of said  
communications network by disabling a second link between said network  
element and a downstream portion of said communications network ~~to maintain~~  
~~a communications channel between said downstream portion of said~~  
~~communications network and said upstream portion of said communications~~  
~~network,~~ in response to said failure, wherein  
said second link is associated with said virtual network.
16. (Original) The apparatus of claim 15, wherein  
said downstream portion of said communications network comprises a redundantly-  
linked network element.
17. (Original) The apparatus of claim 16, wherein  
said redundantly-linked network element comprises a protocol stack including a first  
protocol stack layer and a second protocol stack layer,  
said first protocol stack layer is associated with one or more applications, and  
said means for disabling comprises means for notifying said second protocol stack layer  
of said failure.
18. (Original) The apparatus of claim 17, wherein  
said network element comprises a primary network element,

said apparatus further comprises means for enabling a third link between said redundantly-linked network element and a secondary network element, and said secondary network element is coupled to said upstream portion of said communications network using a fourth link.

19. (Original) The apparatus of claim 16, wherein said redundantly-linked network element comprises a multi-homed endstation.

20. (Original) The apparatus of claim 16, wherein said means for disabling comprises:  
means for disabling a link of a plurality of links between said network element and a plurality of redundantly-linked network elements.

21. (Original) The apparatus of claim 20, wherein said means for disabling said link of said plurality of links comprises:  
means for disabling a link associated with a virtual network.

22. (Original) The apparatus of claim 20, wherein said means for disabling said link of said plurality of links comprises:  
means for disabling a link associated with a port of said network element.

23. (Original) The apparatus of claim 16, wherein said means for disabling comprises:  
means for disabling said second link between said network element and said downstream portion of said communications network within a period of time substantially less than or equal to 50 milliseconds of said failure.

24. (Original) The apparatus of claim 16, wherein said means for disabling comprises:  
means for disabling said second link between said network element and said downstream portion of said communications network within a period of time substantially less than or equal to 2 seconds of said failure.

25. (Currently Amended) A machine-readable storage medium having a plurality of instructions executable by a machine embodied therein, wherein said plurality of instructions when executed cause said machine to perform a method comprising:  
detecting a failure of a first link, wherein

- said first link is between a network element and an upstream portion of a communications network, and  
said first link is associated with a virtual network; and  
in response to said detecting, maintaining a communications channel between said downstream portion of said communications network and said upstream portion of said communications network by disabling a second link between said network element and a downstream portion of said communications network ~~to maintain a communications channel between said downstream portion of said communications network and said upstream portion of said communications network in response to said detecting, wherein~~  
said second link is associated with said virtual network.
26. (Currently Amended) The machine-readable storage medium of claim 25, wherein said downstream portion of said communications network comprises a redundantly-linked network element.
27. (Currently Amended) The machine-readable storage medium of claim 26, wherein said redundantly-linked network element comprises a protocol stack including a first protocol stack layer and a second protocol stack layer, said first protocol stack layer is associated with one or more applications, and said disabling comprises notifying said second protocol stack layer of said failure.
28. (Currently Amended) The machine-readable storage medium of claim 27, wherein said network element comprises a primary network element, said method further comprises enabling a third link between said redundantly-linked network element and a secondary network element, and said secondary network element is coupled to said upstream portion of said communications network using a fourth link.
29. (Currently Amended) The machine-readable storage medium of claim 26, wherein said redundantly-linked network element comprises a multi-homed endstation.

30. **(Currently Amended)** The machine-readable storage medium of claim 26, wherein said disabling comprises:

disabling a link of a plurality of links between said network element and a plurality of redundantly-linked network elements.

31. **(Currently Amended)** The machine-readable storage medium of claim 30, wherein said disabling said link of said plurality of links comprises:

disabling a link associated with a virtual network.

32. **(Currently Amended)** The machine-readable storage medium of claim 30, wherein said disabling said link of said plurality of links comprises:

disabling a link associated with a port of said network element.

33. **(Currently Amended)** The machine-readable storage medium of claim 26, wherein said disabling comprises:

disabling said second link between said network element and said downstream portion of said communications network within a period of time substantially less than or equal to 50 milliseconds of said detecting.

34. **(Currently Amended)** The machine-readable storage medium of claim 26, wherein said disabling comprises:

disabling said second link between said network element and said downstream portion of said communications network within a period of time substantially less than or equal to 2 seconds of said detecting.

35. **(Currently Amended)** A data processing system comprising:

a redundantly-linked endstation; and

a network element configured to

detect a failure of a first link, wherein

said first link is between said network element and an upstream portion of a communications network, and

said first link is associated with a virtual network, and

in response to said failure, maintain a communications channel between said redundantly-linked endstation and said upstream portion of said communications network by disable disabling a second link between said network element and said redundantly-linked endstation ~~to maintain a communications channel between said redundantly-linked endstation and said upstream portion of said communications network in response to said failure, wherein~~  
said second link is associated with a virtual network.

36. (Original) The data processing system of claim 35, wherein said network element comprises a primary network element, said redundantly-linked endstation is configured to enable a third link between said redundantly-linked endstation and a secondary network element, and said secondary network element is coupled to said upstream portion of said communications network using a fourth link.
37. (Original) The data processing system of claim 35, wherein said network element comprises an Ethernet switch.
38. (Currently Amended) A data processing system comprising:  
a redundantly-linked endstation;  
a primary network element, wherein  
said primary network element is coupled to an upstream portion of a communications network using a first link, wherein said first link is associated with a virtual network,  
said primary network element is coupled to said redundantly-linked endstation using a second link, wherein said second link is associated with said virtual network, and  
said primary network element is configured to detect a failure of said first link, and

disable said second link to maintain a communications channel between  
said redundantly-linked endstation and said upstream portion of  
said communications network in response to said failure; and  
a secondary network element, wherein  
said secondary network element is coupled to said redundantly-linked endstation  
using a third link.

39. (Original) The data processing system of claim 38, wherein  
said redundantly-linked endstation is configured to enable said third link, and  
said secondary network element is coupled to said upstream portion of said  
communications network using a fourth link.
40. (Original) The data processing system of claim 38, wherein  
said primary network element comprises an Ethernet switch.
41. (New) The method of claim 1, wherein said second link is a downstream link that is  
individually predetermined by a configuration interface.
42. (New) The apparatus of claim 15, wherein said second link is a downstream link that is  
individually predetermined by a configuration interface.
43. (New) The machine-readable storage medium of claim 25, wherein said second link is a  
downstream link that is individually predetermined by a configuration interface.
44. (New) The data processing system of claim 35, wherein said second link is a  
downstream link that is individually predetermined by a configuration interface.
45. (New) The data processing system of claim 38, wherein said second link is a  
downstream link that is individually predetermined by a configuration interface.



46. (New) The method of claim 1, further comprising:  
selecting said second link only because said second link is associated with said virtual network.
47. (New) The apparatus of claim 15, further comprising:  
means for selecting said second link only because said second link is associated with said virtual network.
48. (New) The machine-readable storage medium of claim 25, wherein said method further comprises:  
selecting said second link only because said second link is associated with said virtual network.
49. (New) The data processing system of claim 35, wherein said network element is further configured to select said second link only because said second link is associated with said virtual network.
50. (New) The data processing system of claim 38, wherein said primary network is further configured to select said second link only because said second link is associated with said virtual network.
51. (New) The method of claim 1, wherein said disabling further comprises:  
disabling said second link on-demand, in response to analyzing a plurality of system attributes.
52. (New) The apparatus of claim 15, wherein said means for disabling further comprises:  
means for disabling said second link on-demand, in response to analyzing a plurality of system attributes.

53. (New) The machine-readable storage medium of claim 25, wherein said disabling further comprises:

disabling said second link on-demand, in response to analyzing a plurality of system attributes.

54. (New) The data processing system of claim 35, wherein said network element is further configured to:

disable said second link on-demand, in response to an analysis of a plurality of system attributes.

55. (New) The data processing system of claim 38, where said primary network element is further configured to:

disable said second link on-demand, in response to an analysis of a plurality of system attributes.